


1015

Date: Monday, 6/5/2006 7:32:27 AM
 User: Linda Lacelle

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: HIGH AFT X-TUBE 412
Job Number	: 27391		
Estimate Number	: 10559		
P.O. Number	: N/A	Part Number	: D412664203
This Issue	: 6/5/2006 S.O. No. : N/A	Drawing Number	: D412-664-243 REV B
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: 6/5/2006 Type : LANDING GEAR	Drawing Revision	: B
Previous Run	: 27390	Material	: N/A
Written By	: 	Due Date	: 6/30/2006
Checked & Approved By	:	Qty:	1 Um: Each
Comment	Est Rev:E 04.02.16 Reformat; Added D3189-1 K/DS Est Rev:F 06-03-29 Remove Coments on Pick List JLM		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D412-664-203 CHG 003

KG 06.06.19

2.0	D6009129	Crosstube Material
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D6009-129 Crosstube R25947

Check OD = 3.500"; ID = 2.250"

BG 06.06.05

3.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
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Comment: MORI SEIKI CNC LATHE LARGE

1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA166

2-Turn first side as per Folio FA166

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243.

BG 06.06.05

4.0	QC1	INSPECT ALL DIM TO DIM SHEET
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Comment: INSPECT ALL DIM TO DIM SHEET

BG 06.06.05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

Date: Monday, 6/5/2006 7:32:27 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: HIGH AFT X-TUBE 412

Job Number: 27391

Part Number: D412664203

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

MORI SEIKI

MORI SEIKI CNC LATHE LARGE



Comment: MORI SEIKI CNC LATHE LARGE

1-Turn second side as per Folio FA166

2-Debur & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243.

3-Polish entire outside surface of crosstube

4- Remove sand and plugs

5-Scribe part # and batch # using vibrating stylus as per Dwg D412-664-243

SG 06.06.05

1

6.0

QC1

INSPECT ALL DIM TO DIM SHEET



Comment: INSPECT ALL DIM TO DIM SHEET

SG 06.06.05

1

7.0

QC8

SECOND CHECK



Comment: SECOND CHECK

J.G 06/06/05 1

8.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

IX 06-06-07

9.0

QC3/5

INSPECT WORK/WING WALK



Comment: Inspect work & Chemical conversion Coat

DP 06-6-8

10.0

BENDING

BENDING MACHINE



Comment: BENDING MACHINE

Bend tube as per Dwg D412-664-243 using CNC bender program 412-af and Folio FT010

DP 06-6-14

11.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

SG 06.06.05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: ☒ Date: 06/09/06

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

Date: Monday, 6/5/2006 7:32:27 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: HIGH AFT X-TUBE 412

Job Number: 27391

Part Number: D412664203

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551

Pm 06-06-2006

2-Ream hole to finish size in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

Pm 06-06-2006

3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243

Pm 06-06-2106

13.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

Pm 06-06-2206

14.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

06-06-2206

15.0

OUTSIDE SERVICE

OUTSIDE SERVICES



Comment: Sub-Contracting OUTSIDE SERVICES

Liquid Penetrant Inspection as per QSI 038Or

Issue P/O: 1627 LPI as per ASTM 1417

Level 2 Attach copy of NDT results to work order

C207107106

16.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage

Ensure copy of NDT results attached to work order.

06/07/12

17.0

QC6

DIMENSIONAL CHECK



Comment: Inspect for damage & ensure results are as per Dwg D412-664-203

06-07-1206

P10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector
06-06-22	13.1	QCS permanent change	[Signature]	06-06-22	1		[Signature] 06-06-22
06-06-22	16	QCS permanent change	[Signature]				[Signature] 06-06-22

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

Date: Monday, 6/5/2006 7:32:27 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: HIGH AFT X-TUBE 412

Job Number: 27391

Part Number: D412664203

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

M 06 08 24 ①

2-Paint outside crosstube with White Imron as per QSI 005 4.2

M 06 08 24 ①

19.0

QC14

Inspect Spray Paint



Comment: Inspect Spray Paint

Wrap in plastic bag to protect from scratches

06-08-25 ①

20.0

D2856600

Abrasion Strip



Comment: Qty.: 1.7640 f(s)/Unit Total : 1.7640 f(s)

Pick:

Qty Part number Description Batch

2 D2856-600(Cut to 10.090") Abrasion Strip

B24328

RT 06-08-31

21.0

D2856600

Abrasion Strip



Comment: Qty.: 1.0080 f(s)/Unit Total : 1.0080 f(s)

Pick:

Qty Part number Description Batch

1 D2856-600(Cut to 10.870") Abrasion Strip

B24328

RT 06 08 31

22.0

D28961

Support



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

Qty Part number Description Batch

1 D2896-1 Support

B26683

RT 06 08 31

23.0

D31891

Chafing Shield



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D3189-1 Chafing Shield

B26687

RT 06-08-31

Date: Monday, 6/5/2006 7:32:27 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: HIGH AFT X-TUBE 412

Job Number: 27391

Part Number: D412664203

Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

MS2192028

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-28 Clamp M100479

25 06 08 31

25.0

MS2192030

clamp(per MIL-DTL-8783C)



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 MS21920-30 Clamp M101568

25 06 08 31

26.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Assemble as per Dwg D412-664-203

25 06 08 31

27.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

DP 6-8-31

28.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

29.0

AN640A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bolt

Batch: M101124

30.0

AN641A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Batch: M101418

LB 06/09/01

Date: Monday, 6/5/2006 7:32:27 AM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: HIGH AFT X-TUBE 412

Job Number: 27391

Part Number: D412664203

Job Number:



Seq. #:

Machine Or Operation:

Description :

31.0

AN960JD616

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total : 18.0000 Each(s)

Washer

Batch: M100697 ✓

32.0

MS21042L6

Nut



Comment: Qty.: 6.0000 Each(s)/Unit Total : 6.0000 Each(s)

Nut

Batch: M100151 ✓

DB 06/09/01

33.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

10/6/9/01

34.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D412-664-203

Location: _____

PPP Rev: D

10/6/9/01

(1)

35.0

DC

DOCUMENT CONTROL



(2)

Comment: DOCUMENT CONTROL

Inspection Level 21

06/09/06

Job Completion



u 2609-05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____

DART AEROSPACE LTD	Work Order:	22391
Description: Crosstube Assembly (412 High Aft)	Part Number:	D412-664-243
Inspection Dwg: D412-664-243 Rev: B		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article
 ☐ Prototype

Inspection Sheet	Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.684	+0.005/-0.000	2.687	✓			
	2.748	+0.005/-0.000	2.752	✓			
	2.884	+0.005/-0.000	2.887	✓			
	3.019	+0.005/-0.000	3.022	✓			
	3.163	+0.005/-0.000	3.163	✓			
	3.308	+0.005/-0.000	3.312	✓			
	3.429	+0.005/-0.000	3.432	✓			
	2.990	+0.005/-0.000	2.994	✓			
	2.618	+0.005/-0.000	2.622	✓			
	0.200	+/-0.010	0.200	✓			
	R0.063	+/-0.010	0.063	✓			
	R0.500	+/-0.010	0.500	✓			
	4.971	+/-0.001	4.971	✓			
SIDE B	2.684	+0.005/-0.000	2.687	✓			
	2.748	+0.005/-0.000	2.751	✓			
	2.884	+0.005/-0.000	2.889	✓			
	3.019	+0.005/-0.000	3.023	✓			
	3.163	+0.005/-0.000	3.168	✓			
	3.308	+0.005/-0.000	3.312	✓			
	3.429	+0.005/-0.000	3.432	✓			
	2.990	+0.005/-0.000	2.992	✓			
	2.618	+0.005/-0.000	2.622	✓			
	0.200	+/-0.010	0.200	✓			
	R0.063	+/-0.010	0.063	✓			
	R0.500	+/-0.010	0.500	✓			
	4.971	+/-0.001	4.971	✓			
	124.09	+/-0.020	124.09	✓			

Measured by:	BSG	Audited by:	S.G	Prototype Approval:	N/A
Date:	06-06-05	Date:	06/06/05	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.06.16	New Issue (P/O D412-664-203)	KJ/JLM	
B	06.03.09	Dwg Rev updated	KJ/JLM	

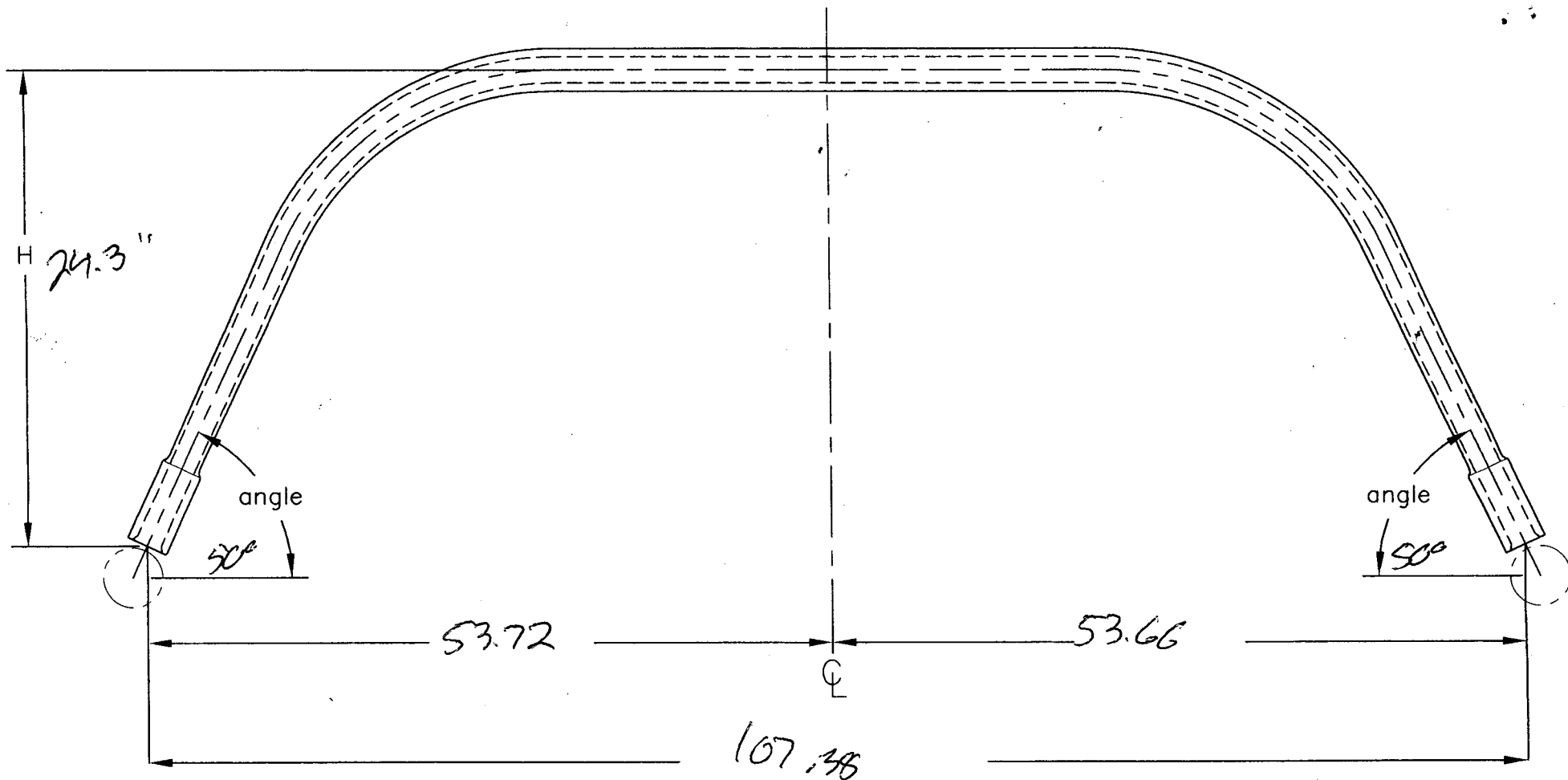
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description / Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries

QA: N/C Closed: _____ Date: _____



DATE: 06.06.19
 DESCRIPTION: DH12641203
 BATCH NO: 27391
 DRAWING: DH12-604-243 Rev B
 H: 23.37
 1/2 SPAN: 53.72
 TOTAL SPAN: 107.44
 ANGLE: 50°



**HeathAir**

INTERNATIONAL (1991) INC.

681 Ave. Lapine, Dorval, Québec H9P 1G3
Tél.: (514) 636-1000 • Fax: (514) 636-0031

W.O. N° 34464

A.M.O. Number: 46/00

NON-DESTRUCTIVE TESTING REPORT**AIRCRAFT / COMPONENT INFORMATION**

REGISTRATION:

MODEL/TYPE:

SERIAL NUMBER:

TOTAL HR/LDG:

OPERATED BY:

BASED AT:

INSPECTION REQUIREMENTS

Carry out FPI of (14) cross tube (external surface) as per ASTM E-1417-05 and the Dart QSI 038, Section 4.1.1 (on file at client) - parts delivered to HeathAir.

Qty (10) P/N D212-664-101 S/N's B26319, B27460, B27461, B27459, B27277, B27275,
B27278, B27275, B27458 & B27462

Qty (4) P/N D212-664-203 S/N B27179, B27260, B27182 & B27391.

☐ RADIOGRAPHY☐ ULTRASONIC☒ PENETRANT☐ MAGNETIC PARTICLE☐ EDDY CURRENT**INSPECTION REPORT**

Fluorescent penetrant inspection was performed in accordance with the above requirements on (14) Cross Tubes.

Note: A Level 3 penetrant was substituted for the requested Level 2 (3 is more sensitive)
Ardrox 970P25E Batch #04B503.

All cross tubes PASSED inspection.

THE MAINTENANCE DESCRIBED ABOVE HAS BEEN PERFORMED IN ACCORDANCE WITH
THE APPLICABLE STANDARDS OF AIRWORTHINESS

DATE July 11, 2006

INSPECTED BY:

INSPECTION
STAMP(S)

N/R

CUSTOMER INFORMATION

CUSTOMER: Dart Aerospace

P.O. NUMBER

1627 ✓

ADDRESS:

CONTACT NAME:

Linda

LABOUR

Ⓢ

\$

MATERIALS

Ⓢ

TRAVEL EXPENSES

Ⓢ

GST

HOTEL EXPENSES

Ⓢ

PST

INVOICE NO.

TOTAL \$

Date: Wednesday, 04/10/2006 10:34:53 AM
 User: Linda Lacelle

Process Sheet

Customer : CC-DAR01 Dart Aerospace Ltd.
 Job Number : 28866
 Estimate Number : 10804
 P.O. Number : *N/A*
 This Issue : 04/10/2006 S.O. No. : *N/A*
 Prsht Rev. : NC
 First Issue : *N/A* Type : LANDING GEAR
 Previous Run : 00015
 Written By :
 Checked & Approved By :
 Comment :

Drawing Name : D28961
 Part Number : *D28961 D412-664-203*
 Drawing Number : REMOVE SUPPORT
 Project Number : *N/A*
 Drawing Revision : *N/A*
 Material : *N/A*
 Due Date : 11/10/2006 Qty: 1 Um: Each

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 LANDING GEAR 1 LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

REMOVE FROM STK

1 X D412-664-203 B *27179*

REMOVE FROM CROSSTUBE

1 X D2896-1 SUPPORT B *26653*

(REF W/O 27179)

Adj. rev. 11 26-10-04 B 26653

2.0 D412664203 Crosstube Aft High



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Crosstube Aft High

3.0 LANDING GEAR 1 LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

WHEN STK - REASSEMBLE SUPPORT ON

CROSSTUBE

D2896-1 B

4.0 D28961 Support



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Support